Comments on NIST's "Glossary for Voting Systems (Draft)"

David Dill, Founder, Verified Voting Foundation
Bob Kibrick, Legislative Analyst, Verified Voting Foundation

April 15, 2005 (Final)

General Comments

This draft of the "Glossary for Voting Systems" gathers together, in alphabetical order, most of the relevant terms needed for developing meaningful voting systems standards. While this represents a good initial effort, the current draft does not define a consistent and precise nomenclature that can be used in developing relevant standards, regulations, and legislation. This is likely the result of gathering the various entries of the glossary from a wide variety of source documents written by a disparate set of groups and authors, combined with an inadequate effort to reconcile the result into a consistent whole.

In particular, there are many instances in which: 1) a particular term is used inconsistently in the context of establishing the meaning of other terms, 2) the meaning of a term is described with respect to other terms that are not included in the glossary and whose meaning is not obvious, and 3) specific terms that belong to a broader category are inadequately distinguished from each other and/or not properly subsumed within the meaning specified for the broader category in which they should be included.

Finally, in many cases, when establishing the meaning of a term that should encompass a broad category of voting systems, the meaning provided often appears to be skewed towards a specific subset of voting systems; in general, there is implicit assumption that all voting systems are automated or computerized, and there is often a more specific assumption that such systems are DRE-based.   For example, the meaning specified for the term "Voting System" (which should be a broad and inclusive term, one that should encompass the full range of systems currently in use in the U.S.) does not appear to include a traditional system of hand-marked paper ballots counted by hand.   And while the glossary includes the term "VVPAT-Ballot Box" (which is itself problematic because it implies that a VVPAT is a ballot, when in most jurisdictions, it is not treated as such), it does not include the term "ballot box", as would be used to hold hand-marked paper ballots or mark sense ballots used in a jurisdiction that employs a central count tabulation system. Similarly, the generic term "Voting System Testing" refers to examination and testing of a computerized voting system.

Specific Comments

Comments are shown in italics.

Absentee Ballot: Ballot prepared or cast by a voter prior to Election Day because the voter will be unable to vote in person at the polling place on that day.
Association: voting
Source: VSS, IEEE 1583

Many states allow absentee ballots whether or not the voter COULD vote in person at the polling place on election day. California and other states also allow absentee ballots to be turned in at the polling place on election day. Suggested change:

"Paper ballot prepared or cast by a voter prior to Election Day, typically submitted by mail but sometimes turned in at the polling place on Election Day."

Accuracy for Voting Systems: Ability of the system to capture, record, store, consolidate and report the specific selections and absence of selections, made by the voter for each ballot position without error. Required accuracy is defined in terms of an error rate that for testing purposes represents the maximum number of errors allowed while processing a specified volume of data.
Association: voting, testing
Source: VSS

The wording is ambiguous. Is the selection made without error, or is it captured without error? Accuracy should include whether voter INTENT is captured.

Adequate Security: Security commensurate with the risk and the magnitude of harm resulting from the loss, misuse, or unauthorized access to or modification of information. See also risk assessment.
Association: computer security
Source: OMB A130

Needs to include probability of successful attack.

Audio Ballot: Voter interface which provides the voter with audio stimuli and allows the voter to communicate intent to the voting system through vocalization or physical actions. See also ballot.
Association: voting, human factors, HF: accessibility
Source: FL Statutes

The ballot is NOT the interface! It is the set of choices presented to the voter.

Audit Trail: Recorded information that allows election officials to view the steps that occurred on the equipment included in an election to verify or reconstruct the steps followed without compromising the ballot or voter secrecy.
Association: voting, security
Source: no attribution

There is no reason to assume that election officials are the ones doing the auditing.

Audit Trail for DRE: Paper printout of votes cast, produced by direct response electronic (DRE) voting machines, which election officials may use to crosscheck electronically tabulated totals.
Association: voting, security
Source: NASS

Given that the paper printout is derived from the electronic records (and not independently verified by the voters), "cross-checking" can only reveal problems in the printing process. Thus, it is inappropriate to call this an audit trail. Further, this usage is inconsistent with the meaning specified for the broader term "Audit Trail".

Ballot: (1) Physical record of the selections made by a voter in all of the races or contests in a particular election. Typically used in the context of hand-counted paper, punched card, or optical mark-sense ballots. When the ballot is recorded in electronic form, the term ballot image is preferred. (2) An official presentation of all of the contests to be decided in a particular election. These may be printed on the ballot (sense 1), printed on a ballot label (as used for punched-card and mechanical-lever voting machines), presented on a computer display screen, or in some alternative form such as audio. See also, audio ballot, ballot image, video ballot, electronic voter interface.
Association: Voting
Source: no attribution

The term "ballot" is used inconsistently, even in election codes. Sometimes, it refers to the unmarked presentation in paper or on the screen of the selections available to the voter (sense 2). Other times, it refers to the vote record (sense 1). These are, of course, very different things. Because the word "ballot" has so many different connotations, its unqualified use should be avoided and more specific terms, such as unmarked ballot, marked ballot, cast ballot, ballot image, etc., should be used wherever possible.

Ballot Measure: Legislation pertaining to the adoption of laws and/or amendments to state constitutions that appears on the ballot for approval or rejection.
Association: voting
Source: no attribution

State constitutions are not the only types of amendments that can appear as ballot measures, e.g., city charters.

Ballot Scanner: Device used to read the data from a marksense ballot.
Association: voting
Source: VSS

This meaning is rather vague in that it doesn't indicate what "data" is being read, nor what, if anything, the scanner is doing with that data beyond reading it. In the case of an in-precinct marksense ballot scanner, is it simply reading the data to detect voter errors (e.g., overvotes) so that it can reject such ballots and return them to the voter, or is the scanner also tabulating those ballots that it accepts as valid? This distinction is particularly relevant in certain states, such as West Virginia, which has legislation pending that would permit the former function but prohibit the latter.

Also, if a "ballot scanner" only reads marksense ballots, what does one call a device that reads data from punch card ballots or that scans other types of paper ballots that are not marksense ballots (e.g., a ballot scanner that reads vote selections encoded via barcodes or reads selections specified by numbers or text via optical character recognition technologies)?

It would make more sense to use terms such as "ballot scanner" to clearly define a broad class or category of devices, and then to define specific instances of that class (e.g., "marksense ballot scanner") as well as specific instances of that subclass (e.g., "in-precinct marksense ballot scanner"). There is a hierarchical relationship between such terms, one which the current alphabetical order of the glossary tends to obscure.

Central Counting: Counting of ballots in one or more locations selected by the election authority for the processing or counting, or both, of ballots.
Association: voting
Source: IL Statutes

This definition appears overly broad, since precinct-count systems also fit this definition. Central count systems need to be clearly differentiated from precinct-count systems. Although the term "precinct count" is defined in this draft of the glossary, it does not appear in the correct position (i.e., it is found in between the definitions for "Physical Configuration Audit" and "Point Size", when it should appear following "Precinct" and before "Precision").

Direct Record Electronic (DRE) Voting System: Voting system that records votes by means of a ballot display provided with mechanical or electro-optical components that can be actuated by the voter, that processes the data by means of a computer program, and that records voting data and cast vote records in internal and/or external memory components. It produces a tabulation of the voting data stored in a removable memory component and/or in printed copy.
Association: voting
Source: VSS, IEEE 1583

This definition makes reference to "votes" and to "voting data" without clearly specifying any difference or relationship between the two terms; neither of these two terms is defined elsewhere in this glossary. It also uses the verb "records" in two different contexts, only one of which is consistent with the definition of "record" located elsewhere in the glossary. That conflict might be avoided if the initial reference to "records votes" were replaced by "registers selections", since the selections or choices that the voter specifies via the "ballot display" and its associated components are alterable by the voter and are not recorded (i.e., preserved) until the voter's vote is cast.   It also specifies that "the data" are processed by means of a computer program, without explicitly specifying what constitutes "the data".

Directly Verifiable: Voting system that allows the voter to verify at least one representation of his or her ballot with his/her own senses, not using any software or hardware intermediary. Examples of a directly verifiable voting system include DRE with a voter verified paper trail or marksense system. This is in contrast with an indirectly verifiable voting system.
Association: voting, security
Source: no attribution

As noted earlier, the term "ballot" has multiple meanings, and its use in this definition could be misconstrued as applying to an unmarked ballot, i.e., that a voting system is "directly verifiable" if the voter is able to directly verify that he or she has been issued the correct unmarked ballot on which to begin voting. There is nothing in the language of this definition that requires the voter to be able to directly verify that his or her selections/choices have been accurately captured on the "ballot" that is being verified. Although that requirement might be inferred by the examples given, it should be made explicit in the definition.

Furthermore, this definition ducks the issue of whether the "one representation of his or her ballot" is the actual entity (i.e., the "fundamental representation") that is used both for initial counts and audits/recounts (as is the case for a marksense system) or only the latter (in the case of a DRE-VVPAT). By lumping both cases together under the category "Directly Verifiable", these important distinctions are blurred, and these two significantly different levels of verification are treated as if they were equivalent, when clearly they are not.

Suggested change: Change the term "Directly Verifiable" to "Directly Verifiable Record" so as to identify what entity is being verified. That way, if there are multiple records, the term distinguishes between those that are directly verifiable and those that are not.

DRE Display: Part of the DRE that displays the electronic record.
Association: security, voting
Source: no attribution

This is not a particularly meaningful definition. First, the term "electronic record" is not defined in this glossary. Further, what is displayed on the DRE display is at best a computer generated visual representation of the information contained in an electronic record, since such records themselves typically consist of packets of electrical charge or magnetization that cannot be directly displayed to or sensed by voters. As such, the accuracy of that display depends on the accuracy of any computer program that is used to render the contents of any electronic record into a visual representation that can be displayed on the DRE's display. Also, such a DRE display is used to convey many other items of information, such as instructions.

E-Voting: (1) Term frequently used to refer to DREs and other types of electronic voting equipment, but may be misleading as it implies remote access via a computer network or the Internet. (2) Election system that allows a voter to record his or her secure and secret ballot electronically. See also DRE, Electronic Voting Machine.
Association: voting
Source: (1) NASS, (2) Whatis.com

"E-voting" is another problematic term, similar to "ballot", since it has so many different connotations that its use leads to confusion. If remote access is being discussed, it should be more appropriately referred to as "Internet voting" or "remote voting".

Including security and secrecy in the definition would make "insecure e-voting" a contradiction in terms. Conventionally, e-voting has been used to refer to insecure systems.

For all these reasons, the term "e-voting" is not appropriate for use in a standards document. Rather, e-voting should simply be used as an abbreviation for electronic voting, with whatever ambiguities and misunderstandings that entails.

Election Programming: Process by which election officials or their designees use voting system software to logically define the ballot for a specific election.
Association: voting
Source: VSS, IEEE 1583

The word "logically" should be omitted

Electronic Ballot Printer (EBP): DRE-like device that fully prints paper-based ballots with selected vote choices for tabulation by a separate ballot scanner.
Association: voting
Source: IEEE 1583

The use of "DRE-like" is imprecise, since it fails to indicate whether an EBP possess all or

only some of the characteristics of a DRE, and, if the latter, which ones it has in common. In particular, it does not indicate whether or not an EBP maintains its own, independent cast vote record and vote tabulation that results from the "selected vote choices" (as would a DRE), or whether an EBP simply uses an "Electronic Voter Interface" (similar to what is used by both DREs and EBMs) to capture the "selected vote choices". Alternatively, an EBP might be a device similar to an EBM, except that instead of marking the voter's selections onto a preprinted paper ballot, it prints both the image of the unmarked ballot along with the markings that correspond to the voter's selections.

Electronically-Assisted Ballot Marker (EBM): Machines that provide assistance to voters who are visually impaired, who have difficulty reading English, or in other cases where a voter has difficulty correctly marking by hand a preprinted paper ballot that is to be counted in optical scan systems. The device marks, or helps to mark selected vote choices on a previously inserted, preprinted paper ballot. The machine then provides audio, tactile, or visual feedback to the voter on what choices they have made on the ballot. The resulting ballots are later tabulated on the same unit that processes ordinary hand-marked paper ballots.
Association: voting, human factors
Source: IEEE 1583

There is no reason to assume that EBMs will only be used exclusively by visually impaired voters, etc., even if that was their originally-intended purpose. One could imagine an EBM used by the able-bodied, or an EBM that is inaccessible to voters with some combinations of disabilities (e.g., voters who are blind and deaf). Some advocate the use of EBMs for all voters (except absentee voters) using a central-count optical scan/marksense voting system in order to prevent common voter errors such as overvotes, thus serving a broader purpose beyond accessibility. Suggested change:

"A device that marks, or helps to mark, selected vote choices on a previously inserted, preprinted paper ballot. The device may use an electronic voter interface as the means for enabling voters to register their selections of candidates and issues. The machine then provides audio, tactile, and/or visual feedback to the voter on what choices they have made and on what choices have been marked on the paper ballot. The resulting paper ballots are later tabulated on the same unit that processes ordinary hand-marked paper ballots. Such devices can be used to provide assistance to voters who are visually impaired, who have difficulty reading English, or in other cases where a voter has difficulty correctly marking by hand a preprinted paper ballot that is to be counted in optical scan systems; they may also be used to prevent overvoting and provide warnings about undervoting on paper ballots voted at the polling place in jurisdictions employing central-count paper-based voting systems."

Electronic Vote Capture System (EVCS): Election system that encompasses DREs as well as accessible ballot printers (ABPs) when they are combined with the ballot scanner that processes the printed ballot. See also Voter Verified Paper Audit.
Association: voting
Source: IEEE 1583

The term "accessible ballot printers" is unclear and is not defined elsewhere in this glossary.

Electronic Voter Interface: Subsystem within a DRE voting system which communicates ballot information to a voter in video, audio or Braille form and which allows the voter to select candidates and issues by means of vocalization or physical actions.
 Association: voting, Human factors, HF: accessibility
 Source: FL Statutes

This definition is unnecessarily limited to DREs, when it could apply equally well to other technology, such as EBMs. Suggestion: either delete "DRE" from the definition, or replace "DRE" with "DRE or EBM".

Electronic Voting Machine: Any system that utilizes an electronic component. Term is generally used to refer to DREs. See also Voting Equipment, Voting System.
 Association: voting
 Source: NASS

This definition is overly broad (e.g., it would include a radio) and also inconsistent with the definition of "voting machine" that appears elsewhere in this glossary. Suggested change: "Any voting system that utilizes and electronic component...."

Firmware: Computer programs (software) stored in read-only memory (ROM) devices embedded in the system and not capable of being altered during system operation.
 Association: IT
 Source: IEEE 1583

Many voting equipment vendors conventionally refer to software that can be installed from PCMCIA cartridges or other media as "firmware". Obviously, this is not stored in ROM internally, and we have no assurance that it cannot be changed during the operation of the machine. Furthermore, the phrase "during system operation" is odd. Why is it particularly interesting whether the programs can be changed during the election or before (or even afterward, potentially destroying evidence of problems in the software installed during or prior to the election). Suggested revision: "Conventionally used in the voting industry to refer to software installed on voting systems."

Fled Voter: Voter who has begun the process of using voting equipment to cast a ballot and has exited the polling site without completing the casting of the ballot, thereby leaving the voting equipment in a state in which election procedures must be used to decide whether the fled voter's incomplete ballot will be cast before the voting equipment is reset. See also abandoned ballot.
 Association: voting
 Source: no attribution

Fled voters represent a more general problem, particularly in the case of any paper-based voting system where a voter might flee the polling place with his or her unmarked paper ballot (e.g., the "seed" voter in a chain-voting scheme). This definition should be more broadly defined to establish a general class within which more specific instances can be defined. Suggested revision:
"A voter who initiates but does not complete the act of voting prior to leaving the polling place. Fled voters raise several issues, such as mismatches between the number of voters signing into the polling place versus the number of ballots cast, or requiring a decision by poll workers whether to complete the casting of that voter's ballot after the voter has left the polling place."

Hash: Algorithm that maps a bit string of arbitrary length to a fixed-length bit string. Approved hash functions satisfy the following properties: (a) it is computationally infeasible to find any input that map to any prespecified output, and (b) it is computationally infeasible to find any two distinct inputs that map to the same output.
Association: voting
Source: NIST SP 800-63

"hash" is used in computer systems in a more general sense that does not require inversion to be infeasible. Perhaps this should be "secure hash"?

Independent Testing Authority (ITA): Deprecated, replaced by Voting System Testing Laboratory. Organization certified by the National Association of State Election Directors (NASED) to perform qualification testing.
Association: testing, voting
Source: VSS

If this authority is transferred from NASED to some other agency or organization in the future, this definition will have to be changed.

Multi-seat Content: Contest in which multiple candidates can run, up to a specified number of seats. Voters may vote for no more than the specified number of candidates. Also known as field race.
Association: voting
Source: NIST HF Rpt.

Typographical error: "Content" should read "Contest".

Paper Record: Paper ballot image or summary that is a copy of the electronic record and that is verifiable by a voter. See also ballot image.
Association: voting, security
Source: no attribution

This definition is inconsistent with definition of ballot image, which is typically not voter-verified. Assuming voter verification is not necessarily consistent with common usage of this term. Also, this generic term should apply more broadly to other voting technologies. For example, a marksense paper ballot is also a paper record, but not according to the above definition.

Polling Place: Facility that is staffed by poll workers and equipped with voting equipment, to which voters from a given precinct come to cast in-person ballots. See also voting station.
Association: voting
Source: VSS, IEEE 1583

Precinct: Administrative division representing a geographic area in which voters cast ballots at the same polling place. Voters casting absentee ballots may also be combined into one or more administrative absentee precincts for purposes of tabulating and reporting votes. Generally, voters in a polling place precinct are eligible to vote in a general election using the same ballot format. In some jurisdictions, however, the ballot formats may be

different due to split precincts or required ballot rotations within the precinct.
 Association: voting
 Source: VSS, IEEE 1583

The above two terms, "polling place" and "precinct" are often confused, and the above definitions don't do enough to resolve that confusion, especially with regard to polling places that serve more than one precinct. To further muddy the waters, not all States use the term precinct, but instead have similar divisions such as townships.

Precinct Count:

The definition for "precinct count" is correct, but it appears in the wrong location in the glossary. In this draft, it appears in between "Physical Configuration Audit" and "Point Size", when it should appear after "Precinct" and before "Precision".

Privacy: Voting system is said to provide privacy when it makes it impossible for others to find out how the voter voted.
Association: security, voting
Source: no attribution

Does this cover the case where the voter colludes to reveal the information (e.g. vote selling)? Suggested revision:
"Voting system is said to provide privacy when it makes it impossible for others to find out or confirm how the voter voted."

Read Ballot: Ballot that has been processed but may or may not be counted.
 Association: voting
 Source: no attribution

This definition is not terribly meaningful since it is unclear what it means for a ballot to have been "processed" or why there is uncertainty as whether or not the ballot may be counted.

Second Chance Voting: Provides that voters are notified when their ballots contain errors and are given a chance to correct them. Required by HAVA 2002.
 Association: voting
 Source: NASS

What constitutes an "error"? Are undervotes considered to be errors, i.e., does "second chance voting" include notification about undervotes, or only overvotes? Suggested change: "Provides that voters are notified when their ballots contain certain kinds of errors..."

Split Precinct: Precinct containing more than one ballot format in order to accommodate a contiguous geographic area served by the precinct that contains more than one election district.
 Association: voting
 Source: VSS, IEEE 1583

Need to reconcile this definition with previously-noted concerns about definitions of "precinct" and "polling place".

Spoiled Ballot: Ballot that has been voted but will not be cast.
 Association: voting
 Source: no attribution

Need to make clear why it will not be cast, i.e., because either the ballot is invalid (e.g., the voter was issued the incorrect unmarked ballot for his or her precinct but this error was not discovered until after the voter started marking the ballot, or the voter overvoted on or more contests) or the voter has determined it does not accurately reflect his or her intent. A ballot should not be considered spoiled if it was properly completed by the voter and correctly reflects his or her intent but will not be cast due to a failure of the voting system equipment that prevents it from being cast.

Test Report for EAC Certification: Report of results of independent testing of a voting system indicating the data testing was completed, the specific system version tested, and the scope of tests conducted.
 Association: testing, voting
 Source: VSS, NIST HB 150

Typographical error: change "data" to "date".

Touch Screen Voting Machine: Machine that utilizes a computer screen whereby a voter executes that voter's choices by touching designated locations on the screen and that then tabulates those choices.
 Association: voting
 Source: ME Statutes

Since the term "Voting Machine" is defined elsewhere in this glossary as equipment for the "direct recording and tabulation of votes", would not a "touch screen voting machine" also need to record a "cast vote record" in addition to tabulating "those choices"? Wouldn't it make more sense either to define a touch screen voting machine as a specific instance of a "voting machine", i.e., one that uses touch screen sensors as one of the means by which voters indicate their choices or as a specific instance of a DRE, since all touch screen voting machines currently in use are in fact DREs? Suggested change:
"A voting machine [or DRE] that utilizes a computer screen whereby a voter executes that voter's choices by touching designated locations on the screen."

Similarly, it is worth noting that at least some electronically-assisted ballot markers (EBMs) also employ touch screen sensors for similar purposes. Presumably, such devices would be properly referred to as "touch screen EBMs".

Valid Vote: Vote from a ballot or ballot image that conforms to jurisdiction dependent criteria for accepting or rejecting entire ballots, such as stray marks policies and voter eligibility criteria, in a contest that was not overvoted.
 Association: voting
 Source: no attribution

The scope of the word "vote" is inconsistent in this definition. Does it refer to all of the selections that a voter has specified on the voted ballot (as is implied by the references to accepting or rejecting entire ballots), or to each individual contest on the voted ballot? The latter is assumed, since the final portion of the definition refers to a specific contest , i.e., one "that was not overvoted".

Accordingly, a valid vote must also meet jurisdiction-dependent criteria for accepting or rejecting the manner of selection for a specific contest on the ballot (e.g., in a marksense system, a requirement that at least 60% of the area of the "bubble" be filled in). Suggested change:
"Vote from a voted ballot or ballot image in a contest that was not overvoted and which conforms to jurisdiction-dependent criteria for accepting or rejecting: (1) the manner in which each of the voter's selections has been marked or indicated, such as criteria requiring that a certain percentage of the area of a marksense voting position be darkened and (2) entire ballots, such as stray marks policies and voter eligibility criteria."

Verification: Process of evaluating a system or component to determine whether the products of a given development phase satisfy the conditions (such as specifications) imposed at the start of the phase.
Association: testing
Source: VSS

It is not clear whether "determine" means to issue a judgment or to establish conclusively. If the latter, "verification" almost never achieves it. Also, this defines "verification" only in the context of evaluating a voting system, as opposed to verification of ballots, and thus defines the word "verification" in a manner that is inconsistent with its usage elsewhere in this glossary.

Verification and Validation (V&V): Process of determining whether requirements for a system or component are complete and correct, the products of each development phase fulfill the requirements or conditions imposed by the previous phase, and the final system or component complies with specified requirements.
Association: testing
Source: IEEE 1583

It is not clear whether "determine" means to issue a judgment or to establish conclusively. If the latter, "verification" almost never achieves it

Voter Verified Audit Record: (1) Human-readable printed record of all of a voter's selections presented to the voter before the vote is cast. (2) Printed version of the ballot that voters may view and check for accuracy before their votes are cast. See also Voter Verified Record or Voter Verified Paper Trail.
Association: voting
Source: (1) IEEE 1583, (2) NASS

It should be directly verifiable, as previously defined. Meaning (2) should be a printed version of the "voted ballot".

Voting Equipment Operational Environment: All software, hardware (including facilities, furnishings, and fixtures), materials, documentation, and the interface used by the election personnel, maintenance operator, poll worker, and voter, required for voting equipment operations. See also voting environment.
Association: voting
Source: IEEE 1583

This definition makes reference to a "maintenance operator". The meaning of that term is unclear and is not defined elsewhere in this glossary.   What differentiates a "maintenance operator" from the other categories listed (election personnel, poll worker, and voter) and by what entity is the "maintenance operator" employed (e.g., the voting machine vendor or the government agency responsible for the conduct of the election)? Under what circumstances is the "maintenance operator" provided access to the "interface" that is "required for voting equipment operations"?   Note that under the definition for "Voting Equipment Operations Procedures", while "election personnel, poll workers, and voters" are listed, "maintenance operators" are not.

Voting Equipment Operations Procedures: Ordered steps that election personnel, poll workers, or voters follows to perform the tasks for each operational environment.
Association: voting
Source: IEEE 1583

Typographical error: change "follows" to "follow".
Also, "maintenance operator" is not included among the categories of individuals covered by the procedures, even though such maintenance operators are included among those who use the "interface" that is "required for voting equipment operations". (see above)

Voting machine: Mechanical or electronic equipment for the direct recording and tabulation of votes, See also voting system.
Association: voting
Source: Ohio Statutes

This definition does not properly account for existing lever voting machines. While lever machines are mechanical and provide for the direct tabulation of votes, they do not provide for the direct recording of votes since they do not record a cast vote record; neither does there exist any retrofit for lever machines that would provide such a mechanism.

The generic term "voting machine" should encompass the full range of such devices, including lever machines. A voting machine that provides for direct recording of votes (i.e., by recording a cast vote record) should be a more specific instance of a "voting machine", i.e., a "direct recording voting machine", and one that does so electronically should be an even more specific instance, i.e., a "direct recording electronic (DRE) voting machine".
Suggested change:
"Mechanical or electronic equipment for the direct selection and tabulation of votes, See also voting system."
[Note: implementing this suggested change impacts our suggested change for "touch screen voting machine"]

Voting Officials: Term used to designate the group of people associated with elections, including election personnel, poll workers, ballot designers and those responsible for the installation and maintenance of the voting systems.
Association: voting
Source: no attribution

This definition appears to blur distinctions between those individuals employed by the government agencies (elections department, county registrar's or clerk's office, etc.) responsible for the conduct of the election and those privately employed by the vendors (or third-party maintainers) of the voting systems used to conduct the election. While the

former are usually duly-sworn individuals who are accountable to those government agencies who are in turn accountable to the voting public, the latter typically are not. This definition might be used to imply that employees of voting systems vendors who are "responsible for the installation and maintenance of the voting systems" are in fact "voting officials". This definition should be tightened to eliminate such an interpretation. Voting officials should be duly authorized by a government authority.

Voting System: Combination of mechanical, electromechanical, or electronic equipment and any corresponding documentation. It includes the software required to program, control, and support the equipment that is used to define ballots; to cast and count votes; to report and/or display election results; and to maintain and produce all audit trail information. A voting system may also include the transmission of results over telecommunication networks. It additionally includes the associated documentation used to operate the system, maintain the system, identify system components and their versions, test the system during its development and maintenance, maintain records of system errors and defects, and determine specific changes made after system qualification. See also electronic voting system, voting equipment, voting machines.
Association: voting
Source: VSS

This definition is appropriate for automated, mechanized, or computerized voting systems, but is not sufficiently broad to include voting systems that employ hand-marked paper ballots that are counted by hand. Although such systems have (for the most part) been supplanted by automated voting systems, they are still in use (and will likely continue to be used) in many states and thus should be included under any generic definition of "voting systems".

Also, while this definition includes the equipment used to define ballots and to cast and count votes, it does not include the equipment used to store or transport ballots (either paper or electronic ballots), and thus does not appear to include ballot boxes (either those used for storing paper ballots or the removable memory cards used to store and transport electronic ballot images). Such ballot boxes are a critical component of any voting system.

Voting System Testing Laboratory (VSTL): Testing laboratory accredited by the National Voluntary Laboratory Accreditation Program in the field of voting systems testing. See also testing authority.
Association: testing
Source: NIST HB 150-22

This definition makes reference to the "National Voluntary Laboratory Accreditation Program". Although this glossary contains an entry for "NVLAP", it provides no further description of this program.

VVPAT-Ballot Box: Ballot box containing the paper record.
Association: security, voting
Source: no attribution

This definition is potentially problematic, in that it implies that the VVPAT "paper record" is a ballot. In most existing legislation pertaining to the use of VVPAT paper records (as printed by a DRE-VVPAT system), such records are not generally afforded the status of a

ballot (i.e., they are not considered the "fundamental record" of the voter's vote), and are used only in the case of an audit or recount. Legislation in several states (e.g., California's SB 1438) specifically asserts that the VVPAT is "not a ballot". As such, the container in which VVPAT paper records are securely stored should more appropriately be referred to as a "VVPAT-Box" or "VVPAT-storage container".

Also, the glossary contains no corresponding entry for "Ballot Box", even though that is a critical component for any voting system.

VVPAT-Printer: Printing capability of the voting system, including the printer and any associated device involved in printing the paper records and transferring them to ballot boxes.
Association: security, voting
Source: no attribution

Similar to our comments regarding "VVPAT-Ballot Box", this definition should refer to transferring the paper records to "VVPAT boxes" or "VVPAT storage containers" rather than to ballot boxes.